Pacific Islands Fishery News

NEWSLETTER OF THE WESTERN PACIFIC REGIONAL FISHERY MANAGEMENT COUNCIL — WINTER 2008

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lehi (reddish snapper)

onaga (red snapper)

gindai (flower snapper)

BOTTOMFISH IMPORTS SOAR AS LOCAL WATERS CLOSE

MORE RULES ON THE WAY

Red fish for the New Year is a Hawaii tradition. To help ensure this seasonal delicacy remains available in local waters, the Western Pacific Regional Fishery Management Council, State of Hawaii and National Marine Fisheries Service (NMFS) began last year to implement a series of new rules to manage and monitor the bottomfish fishery in the main Hawaiian Islands (MHI).

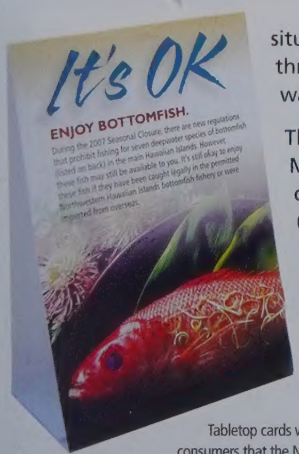
hapuupuu (grouper)

The first action was a May 15 to Sept. 31, 2007, seasonal closure for the popular "deep seven" bottomfish species (onaga, ehu, gindai, hapuupuu, lehi, opakapaka and kalekale) for both commercial and non-commercial MHI vessels. Based on 2005 data, NMFS had determined that fishery-related mortality of these species needed to be reduced by 24 percent in the MHI.

An NMFS preliminary market analysis indicates that the ratio of bottomfish imports to local bottomfish increased to 4.5 pounds to every 1 pound of local bottomfish during the closure. The ratio during previous summers was about 1.8 pounds of imports to 1 pound of local fish. During the MHI closure, bottomfish prices remained rather flat for both imported and local bottomfish.

Unexpectedly, the price did not rise for locally caught bottomfish from the Northwestern Hawaiian Islands (NWHI). The cause was in part the failure of some news reporters, restaurants and consumers to understand that local bottomfish from the NWHI was available and legal. The newly formed NWHI Bottomfishing Hui, with assistance from the Council and seafood distributors, attempted to remediate the situation. They educated local chefs and restaurant patrons through a tabletop card, which explained that the NWHI fishery was still open with healthy stocks.

A NMFS preliminary market analysis indicates that the ratio of bottomfish imports to local bottomfish increased to almost 5 pounds to every 1 pound of local bottomfish during the closure.



Tabletop cards were distributed to restaurants during the MHI closure to inform consumers that the NWHI fishery was still legally open with healthy stocks.

The MHI fishing community had mixed reactions to the closure. Many fishermen expressed frustration with the science used to determine the status of the resource. They believe other factors (such as competition from the introduced taape, predation from sharks and environmental conditions) need to be better addressed. Others felt the closure was long overdue. Potential negative reactions from MHI fishermen were likely subdued by a banner ahi season, which started early, ran long and produced record numbers and sizes. (CONTINUED ON PAGE 3)

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Pacific Islands Fishery News
is published by the
Western Pacific Regional Fishery Management Council
1164 Bishop St., Suite 1400
Honolulu, HI 96813

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More Opportunities for Swordfish under Consideration

Management modifications that would provide the Hawaii-based shallow-set longline fishery with increased opportunities for sustainable, responsible harvests of swordfish are being considered by the Western Pacific Regional Fishery Management Council. A combined draft supplemental environmental impact statement and amendment to the Pelagics Fishery Management Plan for the Western Pacific Region is being prepared and will likely be available for public review and comment in spring 2008. Alternatives under consideration involve expansion of fishing effort, establishment of time-area closures, and continued use of the existing set certificate program. The Council is expected to take final action on this issue in the summer or fall of 2008.

The Hawaii-based shallow-set longline fishery targeting swordfish reopened in mid-2004 after a three-year closure to address sea turtle bycatch issues. The fishery is currently managed under a suite of regulations that has significantly reduced the number and severity of interactions between fishing gear and sea turtles listed as threatened and endangered under the Endangered Species Act. A partial list of the regulations include mandatory use of large (18/0) circle hooks with a 10 degree offset and mackerel-type bait, a maximum effort limit of 2,120 shallow-sets per year (half of the fleet's historical effort), maximum annual sea turtle interaction limits of 17 loggerhead and 16 leatherback sea turtles (fishery is closed if either limit is reached), and mandatory 100 percent observer coverage. Sea turtle interactions are defined to be a hooking or an entanglement. Approximately 10 to 20 percent of each interaction is expected to result in turtle mortality.

The required use of circle hooks and mackerel-type bait in the shallow-set fishery has reduced the sea turtle interaction rate by approximately 90 percent for loggerheads, 85 percent for leatherbacks, and 89 percent for combined species, compared to the period between 1994 and 2001 when the fishery was operating without such gear. Rates for deep hooking (thought to result in some levels of sea turtle mortality) have also declined to 15 percent of all loggerhead sea turtle captures and to zero percent of leatherback sea turtle captures. Prior to requiring the use of circle hooks and mackerel-type bait in the fishery, 51 percent of the sea turtles were believed to have been deeply hooked. These results meet and in some cases exceed those observed in experiments conducted in the Atlantic. Significant reductions in seabird and shark interactions have also been documented.

Figure 1: Sea turtle capture rates in the Hawaii-based longline swordfish fishery 1994-2001 and 2004-2007 (Source: Gilman and Kobayashi, 2007)

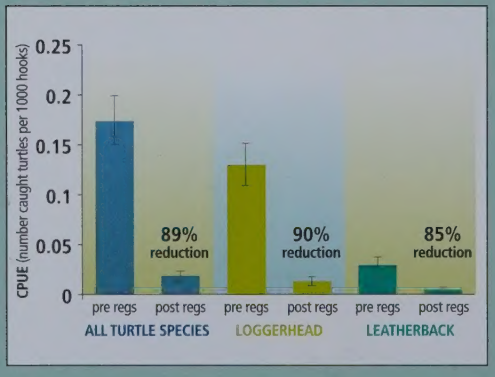
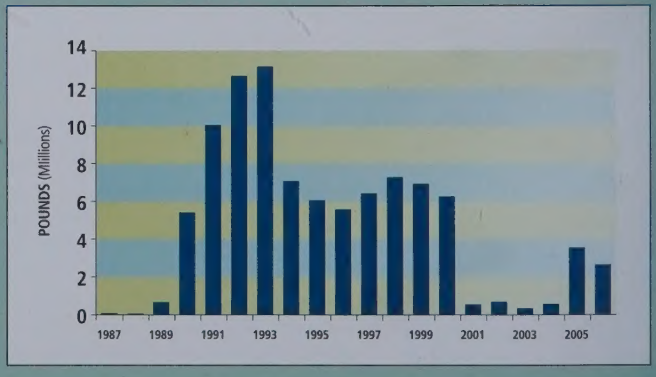
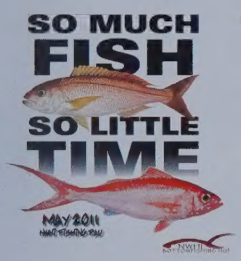


Figure 2: Swordfish landings (millions of lbs) from the Hawaii-based Fleet 1987-2006
Source: 2006 WPRFMC Pelagics Annual Report



$6.7 MILLION
TO COMPENSATE NWHI FISHERMEN

A federal appropriations bill with $6.7 million to compensate federally permitted bottomfish and lobster fishermen who are being forced out of the Northwestern Hawaiian Islands (NWHI) was signed into law January 2008 by President George W. Bush. In 2011, all commercial fishing operations will be banned from the NWHI, as required by the President's 2006 proclamation that turned the 137,000 square-nautical-mile fishing area into the Papahanaumokuakea Marine National Monument.



According to National Marine Fisheries Service (NMFS), there are 15 valid NWHI federal lobster permits and eight valid NWHI bottomfish issued to fishermen as of Jan. 31, 2008. The bill does not extend compensation to Hawaii's commercial pelagic troll and handline fishermen who fished NWHI waters under State of Hawaii Commercial Marine Landing licenses.

Although regulations detailing the compensation mechanism have not yet been developed, the compensation program will be voluntary and limited to no more than the economic value of the permit. Additional compensation for the value of fishing vessels and gear is also available to those who agree to never use their vessels for fishing again.

However, limiting compensation to the economic value of the permit has fishermen concerned as it could result in little or no compensation to them.

Typically, the economic value of a permit is based on two things, the revenues generated by the permit and the price someone is willing to pay to obtain that permit, according to NWHI permit holder Jim Cook. Since NWHI lobster permits are currently subject to a zero harvest quota, the economic value of Cook's permit may be worthless. NWHI bottomfish permits could be equally worthless since permits cannot be transferred to another individual and the fishery will cease to exist after June 2011.

Fishermen are hopeful that NMFS will take a flexible approach and design a program that will consider the revenues of each permit holder or the fishery as a whole in determining fair compensation. In 2007, the preliminary reported NWHI bottomfish landings amounted to 203,000 lbs (183,000 lbs for the Hoomalu Zone and 20,000 lbs for the Mau Zone). However, the Mau figure may be incomplete, as typical landings for the zone range 98,000 to 110,000 lbs through 2005 and 58,000 lbs in 2006. Bottomfish prices in Honolulu during the 2007 holiday season reached over $30 per pound.

ANNUAL CATCH LIMITS TO BE SET BY 2011

Congress, through the 2006 reauthorized Magnuson-Stevens Fishery Conservation and Management Act, is requiring regional fishery management councils to establish and the National Marine Fisheries Service (NMFS) to implement annual catch limits (ACLs) for all managed species by 2011. It is anticipated that the ACLs will be established as total allowable catches (TACs).

Working to meet this mandated deadline, the Western Pacific Regional Fishery Management Council convened an Ecosystem-Based Management\Risk Assessment Workshop, Feb. 27 to 29, 2008, in Honolulu. Among the participants was David Seán Kirby, Oceanic Fisheries Programme, Secretariat of the Pacific Community, who presented his study "Ecological Risk Assessment for the Effects of Fishing in the Western and Central Pacific Ocean: Productivity-Susceptibility Analysis," which he co-authored with Alistair Hobday of the Pelagic Fisheries and Ecosystems, CSIRO Marine & Atmospheric Research, Hobart, Australia.

In the Western Pacific Region, managed species include many pelagic, seamount and demersal species and thousands of coral reef species, the majority of which have no established maximum sustainable yield (MSY) or stock assessment. The Council, therefore, is looking to identify those species that have the highest risk of overfishing and are most in need of ACLs. Once the species are ranked, the Council will ask NMFS to provide stock assessments and estimates of MSY (or proxies thereof) following the order of risk ranking. These estimates will provide the basis for the ACLs to be set by the Council.

BOTTOMFISH

(CONTINUED FROM PAGE 1)

When the MHI bottomfish fishery re-opened on Oct. 1, 2007, it did so under a total allowable catch (TAC) of 178,000 pounds for the deep seven species between Oct. 1, 2007, and May 1, 2008.

The State and NMFS have been closely monitoring the accumulated landings through the commercial catch reports and seafood dealer reports. By late February 2008, nearly two-thirds of the TAC had been landed (see page 14).

MHI bottomfish fishermen can expect the next phase of the new regulations to take effect later this year. They are likely to include:

- Fishery closure from May 1 – Aug. 31, 2008, for Deep 7 bottomfish;
- Federal permits, logbooks and reporting for non-commercial bottomfish fishermen when the fishery reopens Sept. 1, 2008;
- A TAC or annual catch limit for Deep 7 for both the commercial and non-commercial fishery;
- Bag limits of five Deep 7 fish per person per trip for non-commercial fishermen; and
- Vessel marking and other reporting requirements.

To keep up with these fast moving bottomfish regulatory changes, log on to **www.hawaiibottomfish.info**. The web site is a joint product of the Council, Hawaii Division of Aquatic Resources and NMFS.

ehu (red snapper)

kalekale (van Siebold's snapper)

opakapaka (pink snapper)

Improving Recreational Fishery Data

New regulatory mandates in the 2006 reauthorized Magnuson-Stevens Fishery Conservation and Management Act require federal fishery managers to receive more timely and accurate data on saltwater recreational fishing. The National Marine Fisheries Service (NMFS) is partnering with regional fishery management councils, state fishery commissions, state governments, private organizations and interested individuals on a new initiative to address these recreational data needs.

The Marine Recreational Information Program (MRIP) is a nationwide initiative to improve the collection, analysis, and use of recreational saltwater fishing information. NMFS plans to complete a blueprint of the program this summer and deliver a comprehensive report to Congress in January 2009.

An important part of that initiative is the development of a national saltwater recreational angler registry, a comprehensive database of the nation's recreational fishers who use hook-and-line or spearfishing gear. This registry helps improve the data by allowing scientists to survey fishermen directly in order to capture fishing effort data. A proposed rule is set to be published in May 2008 for registry requirements and state exemptions. Proposed rules are public documents announcing significant government plans and offering opportunity for public input.

The Western Pacific Regional Fishery Management Council is working closely with MRIP to ensure that the unique needs of the US Pacific islands are addressed. MRIP team members from the Western Pacific Region are pursuing funding for regionally based projects to improve recreational data collection and reviewing current data collection systems to determine if any of the island areas would be able to apply for an exemption to the registry. Fish mortality data from the recreational sector is increasingly important to the Council as it strives to meet national and international requirements to manage fisheries through quotas, total allowable catches and annual catch limits. For more information or to provide input on these initiatives, contact Council fisheries analyst Joshua DeMello (808 522-7493 or joshua.demello@noaa.gov) or NMFS Pacific Islands Region recreational fisheries coordinator Nicole Bartlett (808 944-2151 or **nicole.bartlett@noaa.gov**) or visit **www.st.nmfs.noaa.gov/mrii**.

BLEAK OUTLOOK
FOR MONK SEALS IN HAWAII

Photo: NIM

The population of Hawaiian monk seals in the Northwestern Hawaiian Islands (NWHI) continues to decline precipitously despite the removal of marine debris, the relocation of aggressive monk seal males and two decades of other conservation interventions, according to researchers reporting to the Hawaii Monk Seal Recovery Team (HMSRT), Feb. 5 to 7, 2008, in Honolulu. Extinction of the NWHI monk seal population segment in the next few decades is a real possibility.

The meeting was the first since the adoption of a revised monk seal recovery plan required under the US Endangered Species Act. The HMSRT has met periodically over the past five years to develop the revised plan, which was finally accepted by National Marine Fisheries Service (NMFS) in the summer of 2006.

A serious 'bottleneck' in the survival of the NWHI seals apparently occurs between post-weaning to about three years of age. Evidence strongly suggests some form of food limitation or nutritional stress on juvenile monk seals as the cause. To exacerbate the situation, population recruitment is further reduced by the numerous shark attacks on pups at French Frigate Shoals, formerly the largest seal rookery and nursery ground in the NWHI.

The Hawaiian monk seal is found throughout the Hawaii archipelago with populations possibly exceeding 5,000 individuals in the past. Exploitation of the seals by humans for food, skins, oil and bait throughout the 1800s likely led to the severe depletion of the NWHI population and the extirpation of at least two colonies by the end of the 19th century. The very low genetic diversity of the current monk seal population may be traced back to this period. Today, the NWHI still has the greatest concentration of the archipelagic population with less than 1,000 animals. The declining trend of about 4 percent per year shows no signs of abating. The number of annual births in the NWHI, currently at 150, is expected to halve in the next 10 years due to the aging population and low recruitment rate.

Conversely, monk seals numbers in the Main Hawaiian Islands (MHI) show an increasing trend in both adults and pups. Births are now 12 to 14 annually from one to two in the 1980s. Moreover, MHI monk seals appear to have a much greater chance of surviving to adulthood, grow faster and mature more quickly than their NWHI counterparts.

While an expanding population in the MHI may be beneficial for this endangered species, it carries with it the greater risk of disease from proximity to humans and animals and greater management challenges. As if to illustrate the latter, on the last day of the HMSRT meeting a female monk seal hauled out at Waikiki Beach. In response, NMFS personnel were obliged to close off an area of the beach around the seal to ensure it was not bothered by the tourists and other beach users.

Unfortunately, the gains in the MHI do not yet compensate the losses from the NWHI. Therefore, the recovery strategy must include maintaining a viable NWHI population through major intervention by NMFS and its partner agencies to significantly improve the survival of all pups from weaning to adulthood. Funded research is needed to determine the best intervention approach (e.g., captive care and feeding of juveniles). In the interim, it is hoped that the MHI population segment will not succumb to a disease epidemic and that people and monk seals can coexist as this population segment expands.

Rep. Bordallo Champions Fisheries Program for Indigenous Communities

US Representative Madeleine Bordallo

On July 25, 2007, Congresswoman Madeleine Bordallo of Guam offered an amendment to the Commerce, Justice, Science and Related Agencies Appropriations Act for Fiscal Year 2008 to appropriate $500,000 for the Western Pacific Community Demonstration Projects Program (CDPP). Her amendment was adopted by the House of Representatives. In January 2008, Rep. Bordallo urged NOAA Administrator Conrad Lautenbacher Jr. "to budget resources to fulfill the spirit of the amendment.

Rep. Bordallo's actions addressed the recurring non-funding of the program for the past three year, i.e., FY05, FY06 and FY07.

The CDPP was established through the 1997 reauthorized Magnuson-Stevens Fisheries Conservation and Management Act. The program is designed to bolster the involvement of indigenous communities in US Pacific island fisheries and promote the use of traditional fishing knowledge and practices.

The exact words of the 1997 and subsequent reauthorizations of the Magnuson Act state: "The Secretary of Commerce is authorized to make direct grants to eligible western Pacific communities, as recommended by the Western Pacific Fishery Management Council, for the purpose of establishing fishery demonstration projects to foster and promote traditional indigenous fishing practices. There are authorized to be appropriated to carry out this section $500,000 for each fiscal year."

The Council awaits action by the NOAA National Marine Fisheries Service.

For more information, contact Charles Kaaiai, indigenous coordinator, at **charles.kaaiai@noaa.gov**

The Aha Kiole Advisory Committee members are (l-r) Jean Ilei Beniamina (Niihau), Chair Vanda Wahinekuipua Hanakahi (Molokai), Winifred "Winnie" Mano Basques (Lanai), Charles Kapua (Oahu), Leslie Aipalena Kuloloio (Kahoolawe), Timothy Paulokaleioku Bailey (Maui), Sharon Pomroy (Kauai) and Hugh "Buttons" Lovell (Big Island).

Aha Moku Councils Offer a Community Cultural Consultation Process

On June 27, 2007, Hawaii Gov. Linda Lingle signed into law Act 212, creating the Aha Kiole Advisory Committee to advise the State Legislature on the creation of a modern Aha Moku Council System. Based on a traditional Hawaiian system of managing and conserving natural resources, the system would include the establishment of Aha Moku Councils in the traditional districts (moku) within the main Hawaiian Islands as well as an Aha Moku Council Commission (consisting of eight Aha Kiole representatives, one from each of the islands) to advise the State of Hawaii on native Hawaiian resource management practices.

The Aha Kiole Advisory Committee members were selected by Gov. Lingle in late October 2007 and are tasked with meeting with the various moku statewide to develop consensus in establishing the Aha Moku Council System.

The Western Pacific Regional Fishery Management Council looks forward to the creation of the Aha Moku Council System as it could help improve understanding of the long-term goals and objectives of specific communities as well as their particular economic, cultural and ethnic concerns. It could also facilitate broader community participation in the Council's decision-making process through the inclusion of the Aha Moku Council Commission in the Council's Hawaii Regional Ecosystem Advisory Committee.

Due to funding issues, the CDPP has supported only 13 projects since its establishment by the Magnuson Act in 1997 to promote traditional fishing knowledge and practices and the participation of indigenous communities in US Pacific island fisheries. Pictured are (left to right) the Ewa Beach Limu Project, which re-establishes native seaweed beds and educates children and communities about them; a grant-writing workshop in American Samoa to equip indigenous communities with the skills needed to submit CDPP proposals; and the Alamagan Project, which partnered with the Northern Islands Mayor's office to establish a fishing station on Alamagan Island in the Northern Mariana Islands.

Co-operative Research Underway to Reduce the Cost of Protecting Turtles

Photo: NMFS PIRO

Hawaii longline observer with loggerhead sea turtle

The Hawaii longline fleet is subject to some of the highest observer coverage rates in the world. Vessels that shallow set for swordfish receive 100 percent observer coverage, and vessels that deep set for tuna average around 20 percent coverage. The primary reason for the high observer coverage is to monitor interactions between the fishery and sea turtles. Administering such high levels of observer coverage is costly, running the National Marine Fisheries Service (NMFS) Pacific Islands Region over $5 million per year.

At its 139th meeting (October 2007), the Western Pacific Regional Fishery Management Council recommended that electronic monitoring systems (EMS) be explored as an inexpensive alternative to observers for fisheries in the Western Pacific Region, beginning with the Hawaii longline fleet.

After receiving approval from the NMFS Administrator William Hogarth in November 2007, Council staff began working with the Hawaii-based longline fleet and NMFS Pacific Islands Fisheries Science Center and Pacific Islands Regional Office to initiate the pilot project.

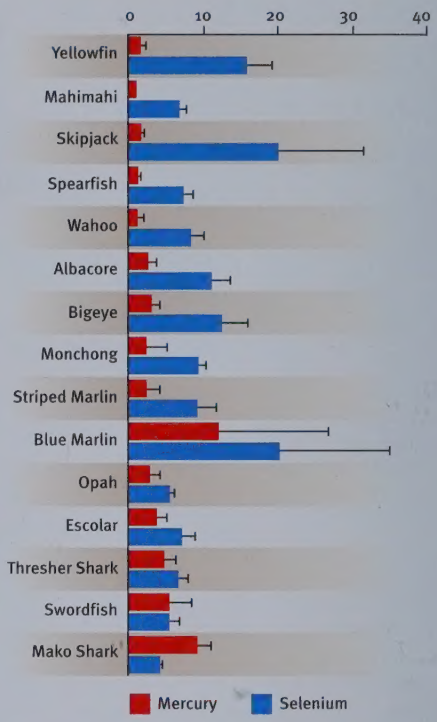
Hawaii is not the first place that NMFS has experimented with EMS. In 2005, NMFS tested the ability of EMS to adequately monitor interactions between birds and the Alaska halibut longline fishery. The study concluded that EMS, which uses video monitoring and computer software, is effective in compliance with seabird avoidance measures. The study also found that EMS operates at about half the cost of human observers.

Since EMS is effective in monitoring seabird interactions, it intuitively seems it will also be effective in monitoring sea turtle interactions. There are fewer species to identify, and there are clear morphological distinctions between loggerhead and leatherback turtles, the two species that interact most frequently with the Hawaii shallow-set fishery.

Selenium in Tuna Protects Against Mercury

Yellowfin tuna was first shown in 1972 to protect against mercury toxicity, not cause it. Further studies by Dr. Howard Ganther and his team at the University of Wisconsin led them to conclude that the rich levels of selenium in tuna were responsible for the protective effect. Selenium, an essential element in our diet, is vital to the body's antioxidant system and proper immune system function. It has anti-cancer effects and is known to detoxify metals including mercury. It has been shown to protect against mercury in every animal model tested.

If the ratio of selenium to mercury determines if a food is safe, what are the ratios in Hawaii fish? In a Hawaii Seafood Project study supported by NOAA, Dr. John Kaneko of PacMar Inc. in Honolulu and Dr. Nick Ralston of the Energy and Environmental Research Center in North Dakota analyzed selenium and mercury in 15 pelagic fish species caught near Hawaii. They found that all of the tuna and billfish species and most other pelagic fish species contained an excess of health promoting selenium over mercury content. Mako shark was the only fish in the study that had more mercury than selenium. For this reason, most Hawaii fish are not only a healthy source of high quality protein and omega-3 fatty acids, they are also excellent sources of selenium. Our favorite fish are more likely to protect against mercury toxicity, than cause it. The good news for Hawaii seafood lovers—the selenium is in every bite!



Regardless of the amount of mercury, if the selenium level is higher, the fish is safe to eat. In the above figure, molar concentrations of mercury and selenium in 15 Hawaii fish species are expressed as means ± standard deviations.

Fishermen Break Preserve Rules to Demonstrate Cultural Rights

On Dec. 13, 2007, Howard A. Hemsing of Yigo and Danny Harry Jackson of Mangilao were arrested after illegally gillnetting in the Tumon Bay Marine Preserve on Guam. The men claim it is their cultural right to fish in the preserve and undertook this peaceful act of demonstration to drive home this point. Some fishermen also believe that regulations in the preserve unfairly target fishermen.

The law states that fishing with talaya (throw net) and hook and line is legal from shore, but the fishermen can not enter the water with their gear, which severely limits their activity. The law also forbids the removal of sand, rock and marine organisms. Even though beach rakers cause such removal to occur, they have been allowed to operate.

Mayor Francisco Blas of the village of Tamuning-Tumon-Harmon had in February of 2007 informed the Western Pacific Regional Fishery Management Council that the island's growing tourism industry was causing community access to beaches to decline. The mayor made his statement during the first meeting on Guam of the Council's Mariana Archipelago Regional Ecosystem Advisory Committee (REAC).

The Tumon Preserve was created in 1997, during the first International Year of the Reef (IYOR). The second IYOR is being celebrated this year, 2008.

Beach rakers remove sand, rock, seaweed and other marine organisms at Tumon Bay Marine Preserve.

Postcards from the Western Pacific Region

1

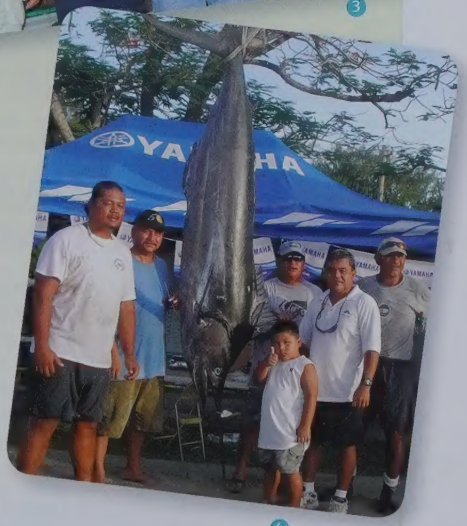
2

1. Year of the Coral Reef 2008 Proclamation on Guam, Feb. 1, 2008. Acting Gov. Michael Cruz signs the proclamation while Western Pacific Regional Fishery Management Council member Alberto "Tony" Lamorena looks on. Prior to the signing, Gov. Cruz reflected on his experience being a doctor and utilizing coral derivatives for an operation. "The coral reef is the rainforest of our ocean," he said. "There is potential for medicinal solutions to be discovered."

3

2. 2nd Saipan Fishermen Association's Wahoo Jackpot Derby, Feb. 16, 2008. Capt. John Sablan (with camera case) of the MV *Gloria II*, with anglers Tom Diaz, Betran Palacios and Ray Guerrero with their 38.15-pound first-place winning wahoo. Also pictured are wife Gloria Salban and other family members.

3. Guam Fishermen's Cooperative Association annual meeting, Jan. 19, 2008. The new Board of Directors elected at the meeting include (l-r) Bill Bradford, Manny Duenas, Dale Alvarez, Peter Kautz and James Borja. Missing are Harris Hiura and Tommy McKinney. Manny retains his office as GFCA president.



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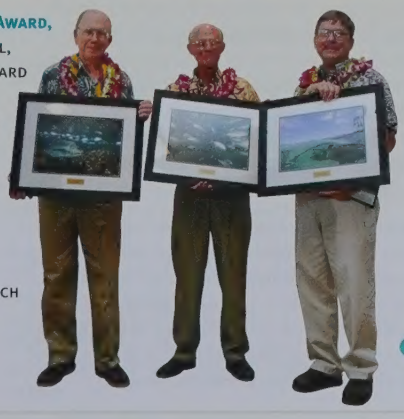
4. Saipan Fishing Derby, July 14 and 15, 2007. Capt. Heinz Hofschneider and anglers Luis Manibusan, Patrick Diaz, John Castro, John Diego Aguon and Juan Tenorio (not pictured) walked away with the grand prize with this 288-lb blue marlin captured on the *Cabo Express*. This marlin was the smallest ever to win in the 23 years of this event. Also pictured is the young son of one of the anglers.



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5. Living Reef Lifetime Achievement Award, Sept. 21, 2007. (l-r) Drs. Jack Randall, Richard Grigg and Sherwood Maynard were honored at the 3rd annual Hawaii Living Reef Program Awards for their lifetime work conserving coral reefs. Grigg is a longtime member of various advisory groups for the Western Pacific Regional Fishery Management Council. The awards program is organized by the Coral Reef Outreach Network, of which the Council is a member.

2008 Lunar Calendars Feature Talaya Fisherman

In 2006, the Western Pacific Regional Fishery Management Council raised public awareness about its change from species-based management of fisheries (through fishery management plans) to place-based management of fisheries (through fishery ecosystem plans) by running a series of Archipelago Ecosystem Poster Contests in Hawaii, American Samoa, Guam and the Northern Mariana Islands.

To reach even a wider audience, the winning posters were featured in traditional Hawaiian, Samoan, Chamoru and Refaluwasch 2007 lunar calendars for these island areas, respectively. The 2007 lunar calendars were well received by educators, who noted their value in classroom teaching of traditional agriculture, fishing and sailing methods.

Due to the request by educators for a 2008 lunar calendar, the Council in late 2007 ran a photo essay contest for high school students entitled "Thru the Eyes of our Elders to the Hands of our Youth." Students were asked to submit a photo and short essay based on an interview with an elder who is versed in cultural and traditional fishing, craft and values.

Leana Peters of Guam won the contest with her insightful essay and beautiful photo of her grandfather Juan Benavente (sidebar story), which graces the cover of the Council's 2008 lunar calendar for all four island areas. These can be accessed on the Education Corner of the Council's website at www.wpcouncil.org/education.

To improve knowledge of the traditional Chamoru and Refaluwasch lunar calendars, the Council is convening workshops with cultural experts and traditional practitioners in Guam and the Northern Mariana Islands in March 2008. For more information, contact Sylvia Spalding at **sylvia.spalding@noaa.gov**.

From left to right, Jennifer Farley (Under Water World) and George Washington High School students Ray Hiroshi, Sandy Pearl Cruz, Leana Peters and Leslie Mafnas. For their participation in the Council's photo-essay contest, the students received prizes from local sponsors Under Water World, Mark Pangilinan Enterprises (Ace Hardware, Mark's Sporting Goods and Ben Franklin), Sam Choy's Restaurant and McDonalds of Guam.

Sea Turtle Conservation and Tourism Clash on Japan's Yakushima Island

The summer of 2007 saw conservation and tourism clashing on the island of Yakushima, Japan. This island is home to the primary rookery for the North Pacific loggerhead sea turtle where more than 30 percent of nesting occurs. Listed as globally endangered by the World Conservation Union, loggerheads have declined dramatically to only 2,000 nesting females per year. The people of Japan eliminated turtle egg harvest during the 1970s, but eco-tourism has become today's modern-day nesting beach threat. Critical conservation concerns at the Yakushima nesting beaches are related to a growing tourism market since the island was designated a UNESCO World Heritage site in 1993.

Biologists observed local eco-tourism guides taking tourists into fenced, protected areas for nesting loggerheads. The result was trampling of nests and high mortality of eggs and hatchlings. Other guides guaranteed turtle sightings by digging up nests to uncover hatchlings. Although sea turtles on the beach are protected under national law, other laws and ordinances assure free, unblocked beach assess. This meant that the local conservation non-governmental organization, Yakushima Umigame-Kan, could not influence local community activities nor could they enforce national wildlife laws, especially under cover of darkness when many violations occurred.

(CONTINUED ON NEXT PAGE)

Winning Photo Essay:

Thru the Eyes of our Elders to the Hands of Our Youth

By Leana Peters
George Washington High School, Guam

My grandpa Juan Benavente is the fisherman I interviewed and photographed. His traditional fishing method is the talaya. The talaya is a net that you strategically maneuver around your arms to be able to launch it over the fish that you see nearby.

"It's not too hard to learn the hand and arm tactics," Juan states. "That isn't what you have to worry about. Seeing the fish and getting ready without scaring them is the hardest part."

The most admirable elements to talaya fishing are the patience and endurance that the fishermen have. They move slowly among the reef, keeping a keen lookout for fish. Juan learned these techniques from his father.

As I was photographing my grandpa while he was fishing, he constantly kept reminding me to be still. I thought it was funny because he would tell me that since I was a kid. He doesn't know that he's doing something cultural; it's just a way of life for him. This is how we really know that he, like many other elders, is the culture.

"I love my grandchildren! I show them my ways the best I can," Juan says proudly.

Conservation and Tourism Clash

(continued from page 8)

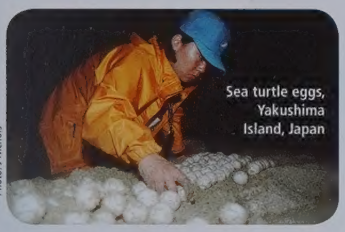


Photo: J Nichols

Sea turtle eggs, Yakushima Island, Japan

North Pacific loggerhead sea turtles nest exclusively on beaches in Japan and then migrate across the entire Pacific, passing Hawaii to Mexico, returning to Japan decades later. Fisheries bycatch in coastal fisheries of Mexico and Japan plus international longline fisheries have been identified as leading sources of loggerhead turtle mortality. For example, in Baja California Sur, Mexico, roughly 1,000 loggerheads are estimated to have been caught annually by demersal gillnets and demersal longlines. According to recent reports, the demersal longline fishery has retired from this area. The Hawaii-based longline fishery, managed by the Western Pacific Regional Fishery Management Council, is one of many pelagic fisheries operating in the Central North Pacific that inadvertently interacts with loggerheads. Although the fishery has significantly reduced its loggerhead interaction rates by over 90 percent using best-practice fishing gear technology (circle hooks and fish bait), impacts at other life stages—such as at nesting beaches—persist and are a growing and significant concern.

The Council has been assisting with conservation efforts since 2004 at critical loggerhead nesting beaches, including Yakushima Island. To date, more than 82,000 hatchlings have been released that would have otherwise been lost without management intervention. For more information, contact Paul Dalzell, at **paul.dalzell@noaa.gov** or Dr. Yoshimasa Matsuzawa, Sea Turtle Association of Japan, at **ymatsu@umigame.org**.

Campaign Seeks Long-Term Recovery of Pacific Leatherback

Saving the last viable populations of Pacific leatherback turtles is an enormous challenge, and a group of dedicated experts are rising to meet it.

Convening July 17-20, 2007, in Terengganu, Malaysia, they worked to accelerate actions underway to ensure that Southeast Asians and Pacific Islanders will long continue to live alongside these gentle giants.

Red-listed by the World Conservation Union (IUCN) as critically endangered, the Pacific leatherbacks faces an extremely high risk of extinction in the wild. Some 95 percent of these giant animals have vanished in the last 20 years due to human activities such as egg poaching, loss of nesting beaches, hunting of adults and accidental captures in fisheries.

The workshop in Terengganu was the second in a series that initially convened in Bellagio, Italy, in November 2003, and which created *The Bellagio Blueprint* containing steps to conserve all sea turtle species from extinction.

This second workshop brought together 45 experts on sea turtles, fisheries, conservation and finance from 10 countries to apply *The Bellagio Blueprint* to the western Pacific leatherback nesting populations. Both workshops were funded by the Western Pacific Regional Fishery Management Council.

Community-based rangers assist NOAA researchers in the collection of Pacific leatherback data at the Kamiali nesting beach in Papua New Guinea. The leatherback is harnessed with a satellite transmitter used to track its migratory route.

The experts meeting in Terengganu drafted a business plan, which makes the strong case that additional funds and other resources are needed to accelerate existing leatherback conservation actions and sustain them over the long term.

The plan identifies the urgent need to direct funds towards maintaining and building local capacity in the key western Pacific leatherback nesting countries, namely Indonesia, Malaysia, Papua New Guinea, Solomon Islands, Vanuatu and Vietnam, especially by making long-term investments in the communities and fishers living and working around nesting beaches.

Other key findings included the need to increase recruitment of hatchlings from nesting sites and to minimize interactions with fisheries in coastal waters adjacent to nesting grounds and in the migratory pathways to inter-nesting areas and foraging grounds.

The Terengganu workshop also began developing a Pacific leatherback fund-raising strategy called "Come Back Leatherback," which will target governments, foundations, corporations and the public.

International Program Unites Fishermen to Protect Loggerhead Sea Turtles

Highly migratory creatures, loggerhead turtles hatch on the beaches of southern Japan and then migrate across the Pacific to Baja California via the Hawaiian Islands. When reproductively mature, they return to Japan to mate and nest.

The Tri-national Fishermen's Exchange brings together fishermen, scientists and community leaders from these three areas to help fishermen find solutions to protect the turtles while maintaining their livelihoods. Following the migratory route of the North Pacific loggerheads, the group met in Japan in 2006 and then in Baja California and in Hawaii in August 2007. They held discussions with local fishing industry representatives and research scientists, witnessed the recovery of Hawaii green sea turtles and finalized resolutions on actions they could take.

Hawaii longline fishermen who target swordfish are allowed to hook, tangle or otherwise interact with only 17 loggerhead turtles annually. Even if the turtles are uninjured and released alive, after 17 interactions the fishery is closed for the year.

Hawaii fishermen, the Western Pacific Regional Fishery Management Council and NOAA scientists have worked together to minimize longline interactions with sea turtles. Among the measures that have proved effective are setting at night, using circle hooks and using fish instead of squid as bait.

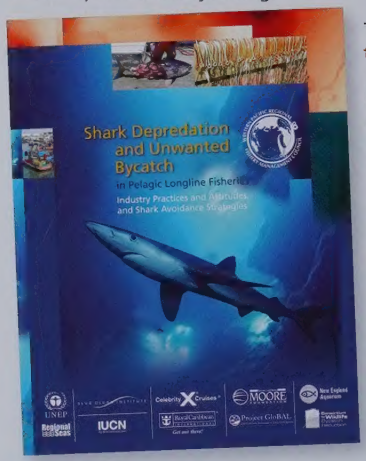
"Hawaii is setting the example," says Juan Ignacio Romero, a fisherman from San Juanico, Baja California. "The world needs to hear about their achievements and the fact that they are still making a living from fishing."

The Council not only supports the Tri-National Exchange Program, it also funds the bycatch reduction component of Proyecto Caguama to conserve loggerhead sea turtles in the northeast Pacific and co-sponsors Proyecto Caguama's educational outreach, community networks and pride campaigns. The Council also supports loggerhead nesting beach conservation projects in Japan, leatherback nesting beach conservation projects in Indonesia and Papua New Guinea, and a circle hook exchange program to reduce sea turtle interactions with artisanal longline fisheries in Latin America.

New Study Assesses Interactions Between Sharks and Longline Fisheries

The unintended interactions of sharks with open-water longline fisheries could be causing ecological as well as economic problems, according to a report announced Sept. 5, 2007, by the Western Pacific Regional Fishery Management Council.

Shark Depredation and Unwanted Bycatch in Pelagic Longline Fisheries: Industry Practices and Attitudes, and Shark Avoidance Strategies assesses shark interactions with longline fisheries in Australia, Chile, Fiji, Italy, Japan, Peru, South Africa and the United States. It reveals that the demand for shark meat is increasing and that existing management and monitoring measures for the species is widely lacking.


Shark Depredation and Unwanted Bycatch
in Pelagic Longline Fisheries
Industry Practices and Attitudes and Shark Avoidance Strategies
IUCN

The study encourages fishery management authorities to begin effective data collection, monitoring and precautionary shark management measures now in preparation for possible further increases in the demand for shark meat and to ensure that shark populations are healthy and shark fishing is sustainable.

It also argues for the development of methods to keep sharks away from longline operations that are not targeting shark species, as well as the need for equipment to ensure that unintentionally hooked sharks are released in ways that promote their survivability.

The study finds that most national fishery management authorities regard monitoring and managing of sharks as a low priority. Of the 12 fisheries studied, only two limit the amount of shark retention trips, while five have no measures to manage shark interactions. The result is a worldwide lack of fishery-dependent data for sharks and a need to improve this situation.

Insights gained from this study may benefit fishermen as well as sharks, especially fishermen who want to reduce shark interactions. For fishermen who are not targeting sharks, lost revenue from shark predation on hooked targeted species can amount to several thousand U.S. dollars in a single set in some fisheries.

Practices to deter shark interactions are currently limited—avoid fishing in certain areas or during certain times, move when shark interaction rates are high, use fish instead of squid for bait and set lines deeper in the water. Beyond these strategies, the knowledge to reduce unwanted interactions with sharks is poor.

A prioritized next step is to test promising innovations to reduce unwanted shark hooking and predation and associated gear damage in pelagic longline fisheries. Chemical, magnetic, electrical and electropositive rare earth metal shark repellants and deterrents hold promise, but more research and development is needed.

Moreover, development of specifically designed equipment to release unwanted sharks could improve their post-hooking survival prospects, reduce gear loss and improve crew safety.

The study notes that the adoption of the US Shark Finning Prohibition Act in 2000 caused both the Hawaii longline swordfish and tuna fisheries to discontinue the retention of most sharks, which are now released alive. Moreover, a 36% reduction in observed shark catches has been reported for the swordfish fishery since it resumed in 2004. The likely cause is the required use of fish bait and prohibition of the historically used squid for bait, a measure introduced to reduce sea turtle interactions.

The report was produced by the Western Pacific Regional Fishery Management Council in Honolulu, Regional Seas Programme of the United Nations Environment Programme in Nairobi, the Blue Ocean Institute in New York, and eight additional agencies and organizations worldwide. It is available online at **www.wpcouncil.org** or by contacting Gilman at **eric.gilman@iucn.org**

Long-Term Nesting Beach Protection Works

Encouraging news emerged for one of the world's largest marine herbivores, the green turtle, *Chelonia mydas*. A new study published in *Global Ecology and Biogeography* (Dec. 19, 2007) shows that long-term protection of the sea turtles' nesting beaches is successful in achieving increases in the green turtle populations.

The authors of the article analyzed nesting data from six of the world's major green turtle rookeries for which there are reliable long-term data of 25 years or more. The analysis shows that green turtle nesting on four beaches in the Pacific (Ogasawara, Japan; French Frigate Shoals, Hawaii; and Heron and Raine Islands, Australia) and two beaches in the Atlantic (Archie Carr National Wildlife Refuge, Florida, and Tortuguero, Costa Rica) have increased by an estimated 4 to 14 percent each year over the past two to three decades. The increases in nesting varied considerably among the rookeries, most likely because historical and current exploitation of green turtles is different at each site.

"These results should be celebrated," said Milani Chaloupka, lead author of the report and vice chair of the IUCN Marine Turtle Specialist Group (MTSG). "They demonstrate that green turtle populations and presumably the green turtles' ecosystem roles can be recovered in spite of drastic population declines in the past."

Despite this good news, hunting of turtles and poaching of eggs are still problems in some of the studied sites, including Tortuguero on the Caribbean coast of Costa Rica. David Godfrey, MTSG member and executive director of the Caribbean Conservation Corporation, commented, "In Tortuguero, the recovering green turtle population attracts millions of dollars in tourism revenue each year for the local community as tourists come to watch the turtles lay their eggs." These same turtles, he notes, are hunted by the thousands when they swim to Nicaraguan waters in search of seagrass.

Central and South American Fishermen Join International Fishermen's Initiative

Artisanal fishermen in Central and South America have agreed to establish a new international fishery association. The association will improve regional collaboration and coordination, including the adoption of a Code of Conduct for responsible longline fisheries. This initiative is one of the key outcomes of the Fourth International Fishers Forum (IFF4).

Held Nov. 12-14, 2007, in Puntarenas, Costa Rica, IFF4 brought together 250 fishermen, fishery managers, seafood retailers, technology experts, scientists and marine ecologists from throughout the Pacific and beyond. Information and experiences shared at IFF4 focused on sustainable fishery practices and approaches to minimize longline and gillnet fishery interactions with sea turtles, seabirds, sharks and cetaceans, such as whales. Participants took a critical look at the state of their artisanal and industrial fisheries and exchanged ideas on how to improve them.

"The Forum has been successful in facilitating the active exchange of wide-ranging perspectives and approaches for responsible longline and gillnet fisheries," noted Carlos Villalobos, executive director of Instituto Costarricense de Pesca y Acuicultura (Costa Rica Fisheries and Aquaculture Institute). IFF4 was co-hosted by the Institute and the Honolulu-based Western Pacific Regional Fishery Management Council.

"Most importantly, the Forum identified gaps where priority international attention is warranted and created new industry-to-industry collaborations to continue our progress in resolving fisheries bycatch problems," Villabos added.

Among the industry initiatives shared at the Forum were two new hook variations to address the unintentional hooking of turtle. Steve Beverly, master fisherman with the Secretariat of the Pacific Community, presented a corkscrew-shaped hook that is easily removed by twisting. Also unveiled was an articulated hook designed by Costa Rican fisherman Wilberth Acosta. When a turtle bites on the hook, a moving part is triggered that alters the hook's shape in such a way to make it harder for the turtle to swallow the hook.

A second key outcome of the Forum was the decision by Central American government representatives and regional non-governmental organizations to join efforts to exchange scientific and regulatory information about fisheries for highly migratory and trans-regional fishery resources. Both the Inter-American Tropical Tuna Commission (IATTC) and the Central American Aquaculture and Fishing Sector Organization expressed their will to support this initiative, Villalobos said.

Two new hook designs that address unintended hooking of sea turtles were unveiled at the conference. The articulated hook is difficult for sea turtles to swallow, while the corkscrew hook is easily removed by twisting.

Other major outcomes of IFF4 were the adoption of the 12-point Puntarenas Declaration and the commitment of individual entities to concrete actions to implement the Declaration. These actions aim to improve the sustainability of artisanal and industrial fisheries by addressing issues related to bycatch, harvest allocation, fishing capacity, ecosystem-based approaches to fisheries management, illegal fishing and compliance. The full text of the Declaration can be found at **www.fishersforum.net**.

IFF4 furthers the progress made during three previous International Fishers Forums over the past seven years. The first Fourm (IFF1) was held in New Zealand in 2000. It was followed by IFF2 in Hawaii in 2002 and IFF3 in Japan in 2005. The Western Pacific Regional Fishery Management Council co-hosted the last three Forums.

"It has been extremely exciting working with positive-minded people who believe in the capacity of humanity and can envision a future where we can have fish forever," said Kitty Simonds, the Council's executive director. "Over the years, the International Fishers Forum community has proven its commitment to responsible fishing in the Pacific and around the globe. We are expanding and growing. We are making a difference. It is truly heartening to welcome fishermen from Central and South America joining us in this endeavor."

Staff from the IUCN (The World Conservation Union), IATTC and WWF (World Wildlife Fund) contributed technical assistance in developing the IFF4 program, identifying session chairs and presenters, and convening the meeting. James Leape, head of WWF, provided the keynote address and contributed in-kind financial support for WWF staff participation.

For more information on IFF4, contact Paul Dalzell at 808 522-8220 or **paul.dalzell@noaa.gov** or Villalobos at 506 248-1196 or email **cvillas@racsa.co.cr**.

A key outcome of the Forum was the decision by Central American government representatives and regional non-government organizations to exchange fishery information. Pictured here are (l-r) IFF4 co-host Carlos Villalobos (Costa Rica Fisheries and Aquaculture Institute), Gustavo Mendizabal (Guatemala Ministry of Agriculture and Alimentation) and a delegate from the Costa Rica government.

Western and Central Pacific Tuna Catches at Near Record High

The Western and Central Pacific tuna fishery had near record landings of 2.2 million metric tons (mmt) in 2006 and is now valued at about US$3 billion. These were among the highlights revealed during the third meeting of the Western and Central Pacific Fisheries Commission (WCPFC) Scientific Committee, convening Aug. 13-24, 2007, at the Hawaii Convention Center.

As reported to the approximately 150 fishery scientists at the meeting, 2.189 mmt of skipjack, bigeye, yellowfin and albacore tuna were caught by commercial fisheries in 2006—the second highest landings on record from the Western and Central Pacific Ocean (WCPO). Of this amount, 1.574 mmt, were landed by purse seine, 0.229 mmt by longline and 0.212 mmt by pole and line.

WCPO purse seine vessel effort appears to have stabilized in 2006 in terms of fleet size at about 180 vessels. Skipjack made up more than 70 percent of the purse-seine catch. Yellowfin tuna catch totals by purse seine vessels dropped slightly to 0.243 mmt, and bigeye tuna was reported at 24,180 mt (down 2 percent from 2005). The trend in catch per unit effort (CPUE) was up for all fleets. The number of sets by the purse seine fleets also increased in 2006 as did the number of sets on fish aggregation devices (FADs) by the US fleet. Ex-vessel price, production fish prices moved up in the latter half of 2006—especially for skipjack tuna. It is estimated that the total value of the WCPO purse seine fishery was at a record high in 2006, at approximately US$1.6 billion.

The WCPO longline fleet appears to have stabilized at about 5,000 vessels over the last three years. A significant decline in the number of offshore longline vessels targeting bigeye tuna was reported for Chinese Taipei (down 54 percent), Korea (down 30 percent) and Japan (down 23 percent). Aggregate longline landings in 2006 for yellowfin tuna were 70,000 mt, and 75,000 mt for bigeye tuna—the lowest for these species in seven years. The economics suggest that prices were up by 7 percent to 33 percent, depending on the product type and species, though some declines were noted. Longline yellowfin tuna prices were reported as flat in terms of the longer term trend, with bigeye tuna price steady or generally rising (5 to 9 percent). The total ex-vessel value of the longline fishery landings for the four main tuna species was estimated to be $1.1 billion.

Western and Central Pacific Fisheries Commission

For the pole and line fishery, most fleets had not provided even preliminary data for 2006. Economic data suggest that in 2006 the value of pole-and-line caught skipjack increased substantially to more than $2,000/mt. In 2006, the ex-vessel price for frozen albacore experienced a significant decline (33 percent).

Findings and recommendations made by the Scientific Committee were considered by the WCPFC at its 4th Regular Session, held Dec. 3 to 7, 2007, at Hyatt Regency Hotel, Tumon, Guam. This was the first opportunity for the US Territories of Guam and American Samoa and the Commonwealth of the Northern Mariana Islands to sit at the table with the US and other delegations. In total, approximately 260 delegates from 33 member countries participated in the five-day session. The meeting was also attended by 53 observers from 19 non-government organizations and non-member countries.

The Council with the Guam Fishermen's Cooperative Association, Discover Guam, GuamCell Communications and the Hyatt Regency Hotel sponsored the Hospitality Desk which was manned by Council staff and volunteers. The Council and Guam Fishermen's Cooperative Association sponsored nightly "island BBQ by the sea" for all participants of the event.

For more information, visit **www.wcpfc.int**.

Climate Change Affects Top Predators in Ocean Ecosystems

Scientists from the University of Hawaii joined more than 150 colleagues at the First Climate Impacts on Oceanic Top Predators (CLIOTOP) Symposium, hosted by the Centro Interdisciplinario de Ciencias Marinas and the Centro de Investigaciones Biologicas del Noroeste, Dec. 3-7, 2007, at La Paz, Baja California Sur, Mexico.

The symposium, which was attended by scientists from 25 different countries, marks the start of the 10-year project to investigate the impact of climate change on top predators in the world's oceans. Predators include tuna, billfish, sharks, whales, dolphins, sea turtles and seabirds. All of these species are affected by such changes in climate as variability in winds, ocean currents, air and sea temperatures, and rainfall levels. El Nino and La Nina changes are the most well known and significant aspect of year-to-year climate variability, but climate change also occurs over decades and centuries.

The University of Hawaii's Pelagic Fisheries Research Program (PFRP) played an active role in the symposium. Dr. John Sibert, manager of the PFRP and a member of the CLIOTOP Steering Committee, helped organize the symposium, and the PFRP sponsored student participation. PFRP-funded research reported at the symposium addresses several aspects of how climate change will affect top predators, for example, how potential changes in the base of the oceanic food web will affect the feeding of top predators, the migration patterns of hatchling sea turtles, and the size of tuna populations.

CLIOTOP provides a framework for scientists to carry out collaborative and comparative research across different oceans. This research will deepen our understanding of the ecosystem impacts of climate change. The CLIOTOP Project has established five working groups to investigate a variety of scientific topics related to the general theme of how climate change impacts top predators. One working group is examining how climate change is likely to affect ocean governance.

In discussing preliminary results of one PFRP-sponsored research project, Sibert said that "global warming may lead to severe contraction of favorable reproductive zones for some species of tunas that will have larger effects than fisheries on tuna stocks by the end of the twenty-first century."

Teachers Follow Fish from *Ocean to Plate*

Chef Nicholas Chaize of Nico's restaurant demonstrates three recipes for preparing Hawaii fish during the 2007 Teachers Workshop on the Hawaii Seafood Industry.

The Teachers Workshop on the Hawaii Seafood Industry lured 50 teachers out of their beds and unto the docks at 6 a.m. Saturday, July 7, 2007. The participation was double that of the 2005 and 2006 rendition of this popular workshop co-sponsored by the Western Pacific Regional Fishery Management Council and *The Honolulu Advertiser's* Newspaper in Education program.

During the workshop, teachers enjoy a tour of a fishing vessel, the live fish auction and a seafood processing and wholesale facility. They experience a chef demonstration on preparing Hawaii fish and then feast on the plates that are prepared. They also learn about issues related to fishing, fisheries management and seafood quality and safety. They leave early in the afternoon with a bag full of teacher resources and lesson plans.

The event is made possible through the generosity of many fisheries people. The 2007 workshop volunteers included Paul Bartram, Akala Products; Diane Tom-Ogata, Farrington High School; Mike Lee, Fresh Island Fish; Skip Gilmore, Hawaii Longline Association; Jennifer Dang, *The Honolulu Advertiser*; Nicole Bartlett, National Marine Fisheries Service; Bill Strickland and Gary Dill, NWHI Bottomfishing Hui; Jim Cook, Pacific Ocean Producers; John Kaneko, PacMar Inc.; Chef Nicholas Chaize, Nico's restaurant; Brooks Takenaka, United Fishing Agency; and Mark Mitsuyasu and Sylvia Spalding, Western Pacific Regional Fishery Management Council.

The 2008 workshop is slated for Aug. 2. For more information or to register, contact Dang at **jdang@honolulu.gannett.com** or Spalding at **Sylvia.spalding@noaa.gov**.

Council Promotes "Traditional Knowledge" Educational Initiatives

The Western Pacific Regional Fishery Management Council has been actively raising awareness and respect for traditional knowledge and practices at the local, regional, national and international levels. In part through its efforts, the National Marine Educators Association (NMEA) has created an ad hoc committee on traditional knowledge (TK), which is co-chaired by the Council's media and educational specialist, Sylvia Spalding, and Don Hudson of The Chewonki Foundation.

At the NMEA 2007 conference in Maine, the emerging committee hosted a gathering of Native Hawaiians, representatives from the Penobscot Nation and persons versed in traditional knowledge from the Pacific Northwest to discuss ways cultural practitioners and educators might work together. The TK Committee is working to continue this discussion between Native Americans and native Pacific islanders during the NMEA 2008 conference in Savannah, Georgia, this July. The discussion will also continue in the international arena, during the International Pacific Marine Educators Network (IPMEN) 2008 conference in Townsville, Australia, in October.

NMEA is internationally recognized for its promotion of marine education in both formal and informal settings. IPMEN was formed following the NMEA-supported and Council-sponsored International Pacific Marine Educators Conference held in January 2007 in Honolulu. For more on NMEA and IPMEN, please go to **www.marine-ed.org** and to **www.ipmen.net**.

Kelikokauaikekai Hoe, Hawaiian studies instructor at Windward Community College, Hawaii, addresses the board of the National Marine Educators Association, July 2007, about traditional knowledge.

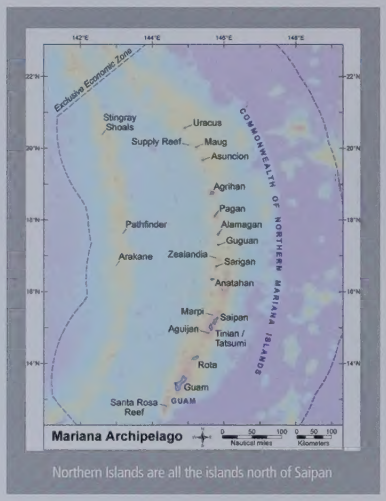
Pew Seeks Marine National Monument for the Northern Mariana Islands

The Commonwealth of the Northern Mariana Islands (CNMI) may be the next U.S. Pacific island state/territory to have its lands and waters withdrawn and designated as a national monument. On Dec. 20, 2007, CNMI Gov. Benigno Repeki Fitial received a letter from the Washington, D.C.-based, Pew Charitable Trusts urging the jurisdiction to support the creation of a marine national monument in its Northern Islands.

The letter from Pew's Global Ocean Legacy director, Jay Nelson, referred to the recent creation of the Northwestern Hawaiian Islands (NWHI) marine national monument, purportedly the world's largest marine protected area (MPA), and noted that a monument within CNMI waters could become the second largest MPA in the world and put CNMI on the map globally. The letter also suggested that a large undersea park would focus international attention on CNMI, which could attract tourists. Tourism is CNMI's major industry but has declined in recent years.

While a monument designation could provide economic opportunities for the CNMI by increasing tourism ventures into the Northern Islands, the designation would likely preclude the CNMI from developing its Northern Islands' fisheries in the future and immediately restrict certain cultural fishing practices, as it has in the NWHI.

In the NWHI, a documented Hawaiian cultural practice was the catching of fish and other marine resources from the area to bring back to Kauai, Niihau and other islands for



Northern Islands are all the islands north of Saipan

community sharing, ceremonial use and other purposes. However, this practice is prohibited under NWHI monument rules as resources harvested under a Native Hawaiian practice permit may not be taken out of the monument.

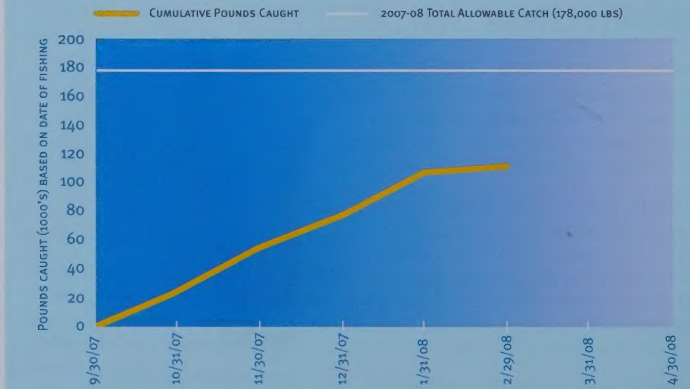
National monuments can only be designated by the President of the United States under the Antiquities Act of 1906. The multi-billion dollar Pew Charitable Trusts was instrumental in persuading the Bush Administration to preempt the public process to designate the NWHI as a national marine sanctuary and instead use executive authority to establish the first-ever "marine" national monument. Pew's "unusually wide-ranging and aggressive advocacy campaign" for the NWHI monument provides a blueprint for Pew's CNMI initiative. Joshua Reichert, director of the environment division for Pew, outlined some of the activities encompassed by the organization's NWHI initiative in "Anatomy of an Advocacy Campaign," published in the August 2006 *MPA News* (http://depts.washington.edu/mpanews/MPA77.htm#Reichert/). Among its many activities, Pew hired a media consultant to assist conservation groups in their efforts to create an "NWHI Network" of organizations in support of protection and to prepare and disseminate press releases and conduct other outreach to media.

Besides changing Nelson's position from NW Hawaiian Islands Project director to Global Ocean Legacy director, Pew has already locally hired Angelo Villagomez, the immediate past executive director of the Mariana Islands Nature Alliance (MINA). Also Scott Foster, whose communication and marketing firm was retained by Pew in March 2006 to help advise local political and media strategy to advance the goal of establishing the NWHI monument, is now the communications director of a recently established Western and Central Pacific Network.

The Western Pacific Regional Fishery Management Council has invited Villagomez to give a presentation at its March 2008 meeting in the Northern Mariana Islands.

Main Hawaiian Islands

Total Deep 7 Landings Reported and Processed as of 2/27/08



Preliminary Summary of Main Hawaiian Islands Commercial Bottomfish Catches

2007-08 SEASON

Commercial and recreational fishing in the main Hawaiian Islands (MHI) will close when the total allowable catch of 178,000 lbs is reached or if a May 1, 2008, seasonal closure is enacted, whichever comes first. The data provided in the graph were compiled from catch reports submitted to the Hawaii Department of Land and Natural Resources, Division of Aquatic Resources (DAR), by Hawaii's licensed commercial fishermen. All records received by DAR as of 02/27/2008 that reported catch of any of the Deep-7 bottomfish species in the MHI (onaga, opakapaka, ehu, gindai, kalekale, lehi, hapuupuu) were processed via expedited procedures and are included in the monthly tallies based on the month of catch. For updates, go to **www.hawaiibottomfish.info**.

New Appointments

At the 139th meeting in October 2007, the Council re-elected **Sean Martin**, co-owner of Pacific Ocean Producers, as its chair and **Manuel Duenas**, president of the Guam Fishermen's Cooperative, as vice chair from Guam. It also elected as new vice chairs businessman **Stephen Haleck** (American Samoa); resort and hotel consultant **Fred Duerr** (Hawaii); and cultural practitioner **Benigno Sablan** (Northern Mariana Islands).

New appointed members to the Council include **William Sword**, a recreational fisherman from American Samoa, and **Peter Young**, environmental consultant and former chair of the Hawaii Department of Land and Natural Resources (DLNR). New designated Council members are **Laura Thielen**, chair, Hawaii DLNR, and **Alberto Lamorena**, director, Guam Bureau of Statistics and Plans. Appointed members are nominated by the governor of their respective state/territory and then selected by the US Secretary of Commerce. Designated members are certain state/territorial and federal officials who hold fishery management or related responsibilities as specified in the Magnuson-Stevens Conservation and Management Act.

At the 139th meeting, the Council appointed **Marlowe Sabater**, biologist with the American Samoa Department of Marine and Wildlife Resources, as a member of the Council's Scientific and Statistical Committee.

The Council also accepted the following persons to its Non-commercial Data Advisory Group: **Ray Roberto** (Northern Mariana Islands); **Jesse Rosario** and **James Borja** (Guam); and **Andrew West**, **Jeff Rogers**, **Kent Mongrieg**, **Mike Sakamoto**, **Mike Buck**, **Bill Mossman** and **Roy Morioka** (Hawaii).

Eskabechi

The Western Pacific Regional Fishery Management Council has featured island recipes in the *Pacific Islands Fishery News* for two decades. Here's one of the earliest recipes that were shared, from *Real Guamanian Recipes*.

ESKABECHI

1 medium size fish, cleaned
1 clove minced garlic
1 large onion, sliced lengthwise
1/4 cup chopped fresh ginger
2 cups green papaya, chopped
1 green bell pepper
1/3 cup vinegar
1 cup water
2 tablespoons soy sauce
2 fresh tomatoes, sliced
3 green onions, chopped
1 tablespoon cornstarch

Sprinkle cleaned fish with salt inside and out. Let stand for 10 minutes. Bake or grill fish until meat is soft. Fry garlic and onions until the onions are soft. Add papaya or peppers, and cook 10 minutes on medium heat. Add vinegar, water and soy sauce. Bring to boil. Add cornstarch that has been mixed with cold water. Stir in and allow sauce to thicken. Spoon over warm fish; let stand in oven for about 5 minutes to allow the flavors to penetrate. Serve with hot rice. Serves two.

2008 PACIFIC ISLANDS PELAGIC SKINDIVER SPEARFISHING CONTEST

The **Western Pacific Regional Fishery Management Council** and **Hawaii Skin Diver Magazine** are pleased to announce the "2008 Pacific Islands Pelagic Skindiver Spearfishing Contest," which rewards free-diving blue water spearfishermen in the US Pacific islands who practice safety by diving with a partner and who support resource management by sharing information of their spearfishing catches.

Visit www.wpcouncil.org or www.hawaiiskindiver.com for a list of monthly raffle winners and daily status of fish landings.

PRIZES:

- Prizes will be awarded to the top three finishers in each island area in the following categories: (1) Largest Fish; and (2) Total Weight of eligible fish accumulated by a diver during the contest period (24 prizes in all).
- Additionally, each eligible fish entitles the spearfisherman with an entry into a bi-monthly raffle. Drawings will be announced on the 15th and 30th of each month (10 prizes in all).

Eligibility is limited to

- Billfish (any species of marlin, swordfish or sailfish), tuna (bigeye and yellowfin ahi, aku, or kawakawa), mahimahi and ono (wahoo)
- Caught by free-diving spearfishing in waters around American Samoa, Guam, Hawaii and Commonwealth of the Northern Mariana Islands (CNMI) between 8 a.m., May 1, 2008, and 4 p.m., Sept. 30, 2008 (local time);
- Weighed and recorded at specified weighing locations (see www.wpcouncil.org or www.hawaiiskindiver.com); and
- Reported to one of the following within 48 hours of landing:

-Hawaii Skin Diver at info@hawaiiskindiver.net
-Fini Aitaoto (In American Samoa) 633-5892 or 633-5102
-John Calvo (on Guam) 649-3150 or 688-6400
-Jack Ogumoro (In CNMI) 322-9830 or 287-9482

Information that must be reported includes:

- Your name and contact information (mailing address, phone number, email)
- Name of witness(es) to the catch (can be dive partner) and dive partner(s) name
- Species, fork length and weight of fish
- Catch location (island and coastline), date and time
- Whether spearfishing from a boat or from shore
- Speargun brand or type
- A photo of you with fish & dive partner (for potential use in Council or Hawaii Skin Diver publications)

Other (optional) details on how fish was caught will also be welcomed, such as whether fishing around a FAD, tide condition, moon phase, use of chum, etc.

Fish caught using SCUBA, hookah or any other underwater breathing apparatus or by a NOAA employee or contractor are not eligible.

Council Calendar & Announcements 2008

MARCH

10-12 **5th meeting, South Pacific RFMO Negotiation,** *Ecuador*

17-21 **140th meeting, Western Pacific Fishery Management Council,** *Guam and CNMI*

27-30 **National Science Teachers Association Conference,** *Boston, MA*

APRIL

1-3 **NOAA Marine Debris Forum,** *Bethesda, MD*

7-11 **Global Forum on Oceans, Coasts and Islands,** *Hanoi, Vietnam*

9-10 **Turtle Advisory Committee, Western Pacific Fishery Management Council,** *Honolulu, HI*

15-16 **Western Pacific Marine Education and Training Workshop,** *Honolulu, HI (see announcement below)*

19 **Mahimahi Derby,** *Saipan*

20-21 **Bycatch Consortium II,** *Brussels*

22-5/2 **Earth Day**

28-5/2 **UN Working Group on Marine Biodiversity,** *New York, NY*

29-5/1 **Pelagic Plan Team, Western Pacific Fishery Management Council,** *Honolulu, HI*

MAY

5-9 **Council Coordination Committee Meeting,** *St. Thomas, USVI*

7-10 **Bycatch Working Group, Interim Scientific Committee,** *Honolulu, HI*

12-16 **Hawaii Archipelago advisory groups, Western Pacific Fishery Management Council,** *Honolulu, HI*

12-16 **Forum Fisheries Committee meeting,** *Koror, Palau*

12-16 **North American Trilateral,** *Merida, Mexico*

14-16 **4th Inter-governmental meeting on Establishment of New Mechanism for Management of High Seas Bottom Fisheries in the North Western Pacific Ocean,** *Vladivostok, Russia*

19-20 **Joint Forum Fisheries Agency and Secretariat of Pacific Community Ministerial Meeting,** *Koror, Palau*

19-22 **59th Tuna Conference,** *Lake Arrowhead, CA*

19-23 **International Symposium on Effects of Climate Change on the World's Oceans,** *Gijon, Spain*

JUNE

2 **NOAA Sustainable Fisheries Leadership Awards,** *Washington DC*

3-5 **Capitol Hill Oceans Week,** *Washington DC*

8 **World Ocean's Day**

9-12 **United Nations 9th Open ended Informal Consultative Process on Ocean Affairs and Law of the Sea,** *New York, NY*

10-12 **98th meeting, Scientific & Statistical Committee, Western Pacific Fishery Management Council,** *Honolulu, HI*

11 **NOAA Fish Fry,** *Washington, DC*

16-20 **141st meeting, Western Pacific Fishery Management Council,** *Honolulu, HI*

16-27 **IATTC and AIDCP annual meetings,** *Panama City, Panama*

23-27 **FAO Technical Consultation on IUU,** *Rome, Italy*

29-7/11 **High School Summer Course on Marine Fisheries & Resources, Western Pacific Fishery Management Council,** *Honolulu, HI (see announcement below)*

JULY

7-11 **11th International Coral Reef Symposium,** *Ft. Lauderdale, FL*

21-25 **National Marine Educators Association conference,** *Savannah, GA*

22-25 **American Samoa Archipelago advisory groups, Western Pacific Fishery Management Council,** *Pago Pago, American Samoa*

28-31 **8th International Fish Congress,** *Portland, OR*

AUGUST

1-3 **National Seafood Cookoff,** *New Orleans, LA*

2 **Teachers Workshop on Hawaii Seafood Industry,** *Honolulu, HI*

9-10 **International Fishing Derby,** *Smiling Cove Marina, Saipan, CNMI*

11-22 **4th Regular Session of the WCPFC Scientific Committee,** *Port Moresby, Papua New Guinea*

17-21 **American Fisheries Society 138th annual meeting,** *Ottawa, Ontario*

27-29 **US Coral Reef Task Force meeting,** *Kailua-Kona, HI*

TBA **Gupot Y Peskadot,** *Guam*

Western Pacific Marine Education and Training Workshop, Council office, Honolulu, HI, April 15-16, 2008. This joint Western Pacific Regional Fishery Management Council and NMFS Pacific Islands Regional Office workshop will assemble a working group of potential partners to develop a marine education and training program for the Western Pacific Region as mandated in the 2006 reauthorized Magnuson Act. The program will recognize traditional knowledge and practices and their use to enhance science-based management; prepare training for employment; pilot programs for regional marine education; include fisheries, seafood, marketing and materials for seafood consumers; improve data, technology and science; and develop partnerships with other islands, academic institutions, and entities. For more information, contact Charles Kaaiai at **charles.kaaiai@noaa.gov.**

High School Summer Course on Marine Fisheries and Resources, June 23 to July 11, 2008, Honolulu, HI. Students meet six hours daily for guest lectures, field trips and hands-on activities that provide them with a wide overview of marine-related jobs and expand their knowledge of marine fisheries and resources and the management of them. The Hawaii course is run in partnership with Moanalua High School with marine science teacher Erron Yoshioka as instructor and includes CPR and first aid certification. Similar courses available in American Samoa, Guam and the Northern Mariana Islands. For more information, visit **wpcouncil.org/education** or email **info.wpcouncil@noaa.gov**. Offered by the Western Pacific Fishery Management Council with NOAA Coral Reef Conservation Program funding.

International Pacific Marine Educators Network (IPMEN) conference, Townsville, Australia, Oct.17-19, 2008. IPMEN 2008 aims to attract approximately 100 marine educators (including formal, informal and community-based educators) from at least 20 Pacific countries. The Network works to facilitate real action in marine education and highlight the need for ocean stewardship across the Pacific. Participants will have entry to the "kids teaching kids" workshops of the 2008 International Youth Coastal Conference. Option available to participate via web-conferencing. For more information, contact Harry Breidhal at **nautilused@optusnet.com.au** or Sylvia Spalding at **Sylvia.spalding@noaa.gov**.

INTERNATIONAL PACIFIC MARINE EDUCATORS NETWORK